

REMARKS

Claim 1 has been amended to claim “A tire” rather than “A rubber composition for inner liners.” Additionally, claim 1 has been amended to recite that “the rubber composition having a brittle point at a temperature of -44.5°C or lower.” Support for this amendment can be found on page 11, in Examples 1, 2 and 3 in Table 1 in the specification.

The preamble in claims 2-4 and 8 have been amended to recite “The tire” as in claim 1.

Claim 6 has been rewritten in independent form.

Claims 5 and 7 have been canceled.

Upon entry of the Amendment, claims 1-4, 6 and 8 are pending in the application.

Claims 1 and 2-5 have been objected to based on informalities.

The Examiner has objected to claim 1 as not using the proper language for reciting a Markush group.

Applicants have amended claim 1 to recite “at least one rubber selected from diene-based synthetic rubber or natural rubber....” (changing “and” to “or”). Therefore, Applicants submit that the recitation is in proper form for a Markush group according to MPEP 2173.05(h). Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the objection.

The Examiner objects to claims 2-5 for reciting “a rubber composition” instead of “the rubber composition.”

Claim 1 has been amended to recite “A tire” and the claims depending therefrom have been amended to recite “The tire.” Accordingly, Applicants submit that the claims are properly dependent from claim 1.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the objections.

Claims 1 and 3-5 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Ajbani et al., U.S. Publication No. 2003/0004250, U.S. Patent No. 6,721,311 (“Ajbani”).

The presently claimed invention, as amended, recites:

A tire comprising a rubber composition for inner liners which comprises at least one rubber selected from diene-based synthetic rubbers or natural rubber having a glass transition temperature of -55°C or lower and an organized lamellar clay mineral, wherein the rubber composition has a brittle point at a temperature of -44.5°C or lower.

In addition, the object of the present invention is to provide a tire in which a rubber composition is used for an inner liner whereby the rubber composition is excellent in resistance to air-permeability and exhibits improved durability at low temperatures.

Ajbani discloses a rubber selected from diene-based synthetic rubbers or natural rubber having a glass transition temperature of -55°C or lower and an organized lamellar clay mineral. However, Ajbani does not disclose or suggest a rubber composition for use in an inner liner or a rubber composition that has a brittle point at a temperature of -44.5°C or lower. Therefore Ajbani does not anticipate the claimed invention.

Additionally, the object of Ajbani is to provide a rubber product having improved tensile strength, modulus, and elongation. In particular, the object is to provide a light-weight rubber composition suitable for production of a tire tread. Such object is entirely different from the object and effect of the present invention.

The Examiner asserts that Ajbani discloses vinylpyridine-styrene-butadiene having a glass transition temperature (T_g) of -61°C , and that the present invention is anticipated by Ajbani which inherently teaches a brittle point of -40°C or lower as recited in Claim 5, although the brittle point at a lower temperature is not actually taught therein.

Applicants direct the Examiner's attention to Table 1 of the present Specification describing the brittle point of rubber compositions at low temperatures. Table 1 makes it clear that other components than a rubber component will cause a big difference with respect to the brittle point at a low temperature. For example, Comparative Example 1 has a brittle point temperature of -45°C and Comparative Example 2 has a brittle point temperature of -32°C , even though both comparative examples have the same rubber composition of 80 parts of butylbromide rubber ($T_g = -62^{\circ}\text{C}$) and 20 parts of natural rubber ($T_g = -62^{\circ}\text{C}$).

Further, Applicants direct the Examiner's attention to Table 1 of Klemmensen, which is discussed in more detail below. Table 1 in Klemmensen shows that although Experiments 2 and 3 have almost the same rubber composition (70 parts of acrylnitrile-butadiene rubber and 30 parts of butadiene-styrene rubber in Experiment 2 and 72 parts of acrylnitrile-butadiene rubber and 28 parts of butadiene-styrene rubber in Experiment 3), there is a big difference in the brittle point at a low temperature between Experiments 2 and 3 (-40°C in Experiment 2 and -32°C in

Experiment 3). In view of the foregoing, Applicants submit that the Examiner's assertion that Ajbani inherently discloses a brittle point at a low temperature of -44.5°C or lower is erroneous and Ajbani does not disclose or suggest a rubber composition with a brittle point at a temperature of -44.5°C or lower.

Applicants submit that the present invention is not anticipated by Ajbani.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1-8 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Klemmensen et al., U.S. Patent No. 5,005,625 ("Klemmensen") in view of Ajbani.

Klemmensen discloses a tire comprising a rubber composition which comprises at least one rubber selected from diene-based synthetic rubbers or natural rubber having a glass transition temperature of -55°C or lower. However, Klemmensen does not disclose or suggest a tire comprising an organized lamellar clay mineral or a rubber composition that is used for an inner liner. Further, Klemmensen discloses the brittle point of the rubber composition is -26°C to -42°C (col. 5-6, Table 1), which is outside Applicants' claimed brittle point range. Therefore, Klemmensen does not anticipate the claimed invention.

Additionally, as discussed above, Ajbani does not make up for the deficiencies in Klemmensen. Ajbani fails to disclose a rubber composition having a brittle point at a low temperature of -44.5°C or lower and also does not disclose using a rubber composition in an inner liner of a tire.

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Amendment under 37 C.F.R. § 1.111

In view of the foregoing, Applicants submit that the present invention is not obvious over Klemmensen in view of Ajbani. Reconsideration and withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

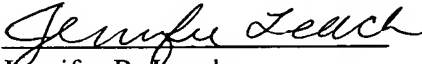
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